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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/615,991

07/10/2003

Cheol-Jin Park

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23373

7590

04/19/2006

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EXAMINER

NGUYEN, TUYEN T

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

7/1

<b>Office Action Summary</b>	<b>Application No.</b> 10/615,991	<b>Applicant(s)</b> PARK, CHEOL-JIN	
	<b>Examiner</b> TUYEN T. NGUYEN	<b>Art Unit</b> 2832	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7, 9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7, 9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Junjie et al. [US 2002/0070833 A1] in view of Hoang [US 5,446,958].

Junjie et al. discloses a transformer bobbin [figure 3] comprising :

- a winding cylinder [40] including a winding axis around which wound a coil;
- a lower portion [41, 42] at one end of the winding axis;
- a plurality of pins [411-429] disposed at the lower portion for inserted into a printed circuit board, wherein the winding axis being perpendicular to the printed circuit board.

Junjie et al. discloses the instant claimed invention except for the specific of the pins and the printed circuit board.

Hoang discloses a transformer [figure 9] comprising:

- a printed circuit board [9] having a receiving hole [91] and an upper surface;
- a bobbin inserted into the receiving hole of the printed circuit board, the bobbin comprising a winding axis around which is wound a coil, a lower portion at one end of the winding axis and a plurality of pins [3] connected at the lower portion, each pin comprising a horizontal support portion that extends in parallel contact with the upper surface of the printed circuit board.

Art Unit: 2832

wherein a radially inner face of the receiving hole [91] and a radially outer face of the bobbin adjacent to the radially inner face of the receiving hole are perpendicular to the upper surface of the printed circuit board throughout a total thickness of the circuit board [figure 9].

Hoang inherently discloses that the horizontal support portions providing support for the entire weight of the bobbin on the printed circuit board.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use pins/printed circuit board design of Hoang in Junjie et al. for the purpose of facilitating mounting and reducing projected area.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Junjie et al. in view of Hoang, as applied to claim 7 above, and further in view of Kataja [US 2002/0057029 A1].

Junjie et al. in view of Hoang discloses the instant claimed invention except for a fixing portion extending from the horizontal support portion in a perpendicular relation to the upper surface of the printed circuit board.

Kataja discloses an apparatus for fixing a bobbin [1, 5] to a printed circuit board [6] for use in a transformer, around an upper portion of the bobbin being around an upper portion of the bobbin being wound a coil, a lower portion of the bobbin being provided with a plurality of pins [2] connected to an end of the coil and connected to the printed circuit board of an electronic product, the apparatus for fixing the bobbin to the printed circuit board comprising:

a receiving hole [figures 1 and 3-4] formed in the printed circuit board, a size of which is minutely larger than that of the bobbin to hold the bobbin; and

Art Unit: 2832

a plurality of horizontal support portions [figure 3] formed at the pins of the bobbin in parallel relation to an upper surface of the printed circuit board, for allowing the bobbin to be supported on the upper surface of the printed circuit board when the bobbin is inserted into the receiving hole.

Kataja further discloses a fixing portion [4] extending from the horizontal support portion in a perpendicular relation to the upper surface of the printed circuit board so that the pins are inserted into an opening formed in the printed circuit board.

It would have been obvious to one having ordinary skilled in the art at the time the invention was made to include fixing portions extending from the horizontal portions in a perpendicular relation to the upper surface of the printed circuit board for the bobbin of Junjie et al., as modified, as suggested by Kataja, for the purpose of providing additional support and connections.

### ***Response to Arguments***

Applicant's arguments filed 2/6/2006 have been fully considered but they are not persuasive.

Applicant argues that:

[1] Junjie and Hoang are directed to two completely different arrangements of bobbins on circuit board and would not be combinable; and

[2] Junjie discloses the bobbin in vertical arrangement and Hoang discloses the bobbin in horizontal arrangement. As such combination would necessarily result in a thicker bobbin/board combination.

The examiner disagrees.

Art Unit: 2832

Regarding [1], eventhough Junjie and Hoang bobbin arrangements are different, their terminal pins on the flanges of the bobbin are the same.

Regarding [2], Junjie, when combine with Hoang, would not result in a thicker bobbin/board combination. Matter of fact, it would result in a thinner bobbin/board combination.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUYEN T. NGUYEN whose telephone number is 571-272-1996. The examiner can normally be reached on M-F 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ELVIN ENAD can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2832

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TTN *TTN*

*Truyen Nguyen*